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Docket No.: Beall 78-15B

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent No.:	7,254,297	
Patentees:	George Halsey Beall, et al	
Serial No:	09/203,166	Group Art Unit: 2874
Filed:	December 1, 1998	Examiner: Kevin S. Wood
For:	Athermal Optical Devices Employing Negative Expansion Substrates	

REQUEST FOR CERTIFICATE OF CORRECTION FOR

PTO MISTAKE PURSUANT TO 35 U.S.C. § 254 AND 37 C.F.R. § 1.322

Attention: Certificate of Corrections Branch
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is a request for the issuance of a Certificate of Correction in the above-identified patent. Two (2) copies of Form PTO 1050 are appended. The correction(s) involve(s) page 3.

The mistake(s) identified in the appended Form occurred through the fault of the Patent Office, as clearly disclosed by the records of the application which matured into this patent. We refer you to the Examiner's Interview Summary of January 15, 2002 and Exhibit A.

Issuance of the Certificate of Correction is requested.

Respectfully Submitted,

CORNING INCORPORATED

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Date: 4/4/08

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Attn: Certificate of Corrections Branch, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 223131-1450 on

4/4/08
Date of Deposit

Svetlana Short
Svetlana Z. Short, Signature

(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 7,254,297
DATED: August 7, 2007
INVENTOR(S): George Halsey Beall, et al

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

No.	Col.	Line	Description
1	9	34	After the sentence "wherein the optical component is an optical fiber grating" add "and the negative expansion substrate is selected to provide thermal compensation to the thermally sensitive, positive expansion optical component."
2	10	45	After "expansion" add ", said material being selected so that the device provides thermal compensation to the fiber grating."

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PATENT NO. 7,254,297

No. of additional copies __1__

#17

Interview Summary	Application No. 09/203,166	Applicant(s) BEALL ET AL.	
	Examiner Akm Enayet Ullah	Art Unit 2874	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Akm Enayet Ullah*. (3)_____.

(2) *Mr. Maurice M. Klee, Ph.D.*. (4)_____.

Date of Interview: *15 January 2002* .

Type: a)☐ Telephonic b)☐ Video Conference
c)☒ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____ .

Claim(s) discussed: *52,60 and 61* .

Identification of prior art discussed: *Kashyap (USPAT 4,923,278) and Publication "Material Chemistry & Physics" by Chu et al.* .

Agreement with respect to the claims f)☒ was reached. g)☐ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *See Continuation Sheet* .

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

i)☒ It is not necessary for applicant to provide a separate record of the substance of the interview(if box is checked).

Unless the paragraph above has been checked, THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

"Sara"

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

The difference between the rejected claims 52, 60-61 and Kashyap & Chu et al publication are that Kashyap fails to disclose the grating as claimed and Chu et al fails to disoclose the negative coefficient of thermal expansion. Note that Chu et al disclose the negative index-temperature coefficient but not a negative expansion coefficient.Thus, claims 52 and 60-61 are allowed over the prior art as of record. Applicant's attorney agreed to allow this application by an examiner's amendment entering the attached proposed revised claims.

Exhibit A

Pending Claims
Following Examiner's Amendment From 1/15/02 Interview

41. An article comprising an optical fiber with a refractive index grating having a length and a reflection wavelength λ at a given temperature within an operating temperature range; wherein the optical fiber is attached to a support member, said support member having a negative coefficient of thermal expansion selected such that λ is substantially temperature independent over said operating temperature range.

42. An article according to claim 41, wherein the support member has a negative coefficient of thermal expansion selected such that $|d\lambda/dT|$ is approximately 10% of $d\lambda/dT$ of an otherwise identical comparison grating that is not attached to a support member.

43. An article according to claim 41, wherein the operating temperature range includes 20°C.

44. An article according to claim 43, wherein the operating range includes at least a portion of the range -20° to 65°C.

45. An article according to claim 41, wherein the optical fiber is a silica-based optical fiber.

46. An article according to claim 41, wherein the optical fiber is attached to the support member at least over the length of the refractive index grating.

47. Article according to claim 41, wherein said optical fiber is attached to the support member at bonding platforms.

48. Article according to claim 47, wherein said bonding platforms are configured such that said refractive index grating is spaced from said support member.

49. Article according to claim 47, wherein said bonding platforms comprise a material selected to have a coefficient of thermal expansion that is substantially matched to the coefficient of thermal expansion of the optical fiber.

50. Article according to claim 41, wherein said support member comprises a first negative thermal expansion coefficient member bonded to a second positive thermal expansion coefficient member, said first and second members selected to provide a support member having a desired value of the negative thermal expansion coefficient.

52. (twice amended) An athermal optical device comprising:

a negative expansion substrate having an upper surface; and

a thermally sensitive, positive expansion optical component affixed to the substrate upper surface at at least two spaced apart locations;

wherein the optical component is an optical fiber grating and the negative expansion substrate is selected to provide thermal compensation to the thermally sensitive, positive expansion optical component.

54. (amended) An athermal optical fiber grating device comprising:

a negative expansion substrate having an upper surface and first and second ends;

an optical fiber affixed to the substrate upper surface at at least two spaced apart locations; and

a grating defined in the optical fiber between and at a distance from each substrate end;

wherein the substrate provides thermal compensation to the grating.

55. (amended) An athermal optical fiber grating device comprising:

a negative expansion substrate having an upper surface and first and second ends;

an optical fiber affixed to the substrate upper surface at at least two spaced apart locations; and

a grating defined in the optical fiber between and at a distance from each substrate end;

wherein the at least two spaced apart locations comprise first and second spaced apart locations, the first location being between the grating and the first substrate end and the second location being between the grating and the second substrate end.

56. The device according to claim 54, wherein the fiber is affixed by a layer of attachment material.

57. The device according to claim 56, in which the attachment material is one of a polymer, a frit and a metal.

58. The device according to claim 57, in which the polymer is an epoxy adhesive.

59. (amended) An athermal optical fiber grating device comprising:

a negative expansion substrate having an upper surface and first and second ends;

an optical fiber affixed to the substrate upper surface at at least two spaced apart locations; and

a grating defined in the optical fiber between and at a distance from each substrate end;

wherein:

(a) the at least two spaced apart locations comprise first and second spaced apart locations, the first location being between the grating and the first substrate end and the second location being between the grating and the second substrate end; and

(b) the device further comprises a bonding pad having a coefficient of expansion intermediate between that of the fiber and the substrate

mounted between the optical fiber and the substrate at each of the first and second locations, the optical fiber being bonded to each bonding pad and each bonding pad being affixed to the substrate.

60. (twice amended) Apparatus comprising:

(a) a substrate comprising a material having a negative coefficient of thermal expansion; and

(b) a fiber grating affixed to the substrate;

wherein the material having a negative coefficient of thermal expansion is selected so that the substrate provides thermal compensation to the fiber grating.

61. (amended) In an apparatus having a fiber grating affixed to a device where the device provides thermal compensation to the fiber grating, the improvement wherein the device comprises a material having a negative coefficient of thermal expansion, said material being selected so that the device provides thermal compensation to the fiber grating.